

WHAT IS CLAIMED IS:

1. A method of searching for possible forms of a sample, said method comprising the steps of:

5 disposing the sample on one or more receptacles, where at least one of the receptacles defines a capillary space, and the sample is disposed within the capillary space;

10 solidifying the sample in or on said receptacles to generate at least one form, wherein said at least one form is a solid or semisolid;

analyzing said at least one form in a manner wherein the analytical result is indicative of the generated form; and

15 classifying said at least one form.

2. The method of claim 1 wherein the sample consists essentially of a solution of one compound.

3. The method of claim 1 wherein the sample comprises a mixture of compounds.

4. The method of claim 1 wherein the sample is disposed on a plurality of receptacles, including at least two different types of receptacles.

5. The method of claim 4 wherein said at least one receptacle includes a receptacle that do not define a capillary space.

6. The method of claim 1 wherein the sample is placed in at least five receptacles defining capillary spaces.

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7. The method of claim 1 wherein the compound is placed in at least 100 receptacles defining capillary spaces.

8. The method of claim 1 wherein the solidifying step comprises crystallizing the sample.

9. The method of claim 1 wherein the solidifying step is selected from the group consisting of solvent evaporation, cooling, heating, anti-solvent addition, gel diffusion,
5 and thin-layer deposition.

10. The method of claim 1, further comprising the step of forming a supersaturated solution of the sample.

11. The method of claim 1 wherein the placing step comprises placing the sample into at least one capillary tube.

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12. The method of claim 1 wherein the placing step comprises placing the sample into a

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5 receptacle selected from the group consisting of a well plate, a block with holes or pores and a sheet with holes or pores.

13. The method of claim 1, wherein the analyzing step comprises a method selected from the group consisting of visual analysis, microscopic analysis, thermal analysis,
5 diffraction analysis, and spectroscopic analysis.

14. The method of claim 13, wherein the diffraction analysis is x-ray diffraction analysis.

15. The method of claim 13, wherein the analyzing step comprises analyzing said form by X-ray diffraction analysis using synchrotron radiation as the radiation source for said
5 analysis.

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16. The method of claim 13, wherein the step of analyzing said form comprises Raman spectroscopic analysis.

17. The method of claim 1, wherein the step of analyzing said form comprises analyzing said form without removing it from said receptacle.

18. The method of claim 11, wherein the step of analyzing said form comprises analyzing said form without removing it from said capillary tubes.

19. The method of claim 18 wherein the analyzing step comprises analyzing said form by X-ray diffraction analysis using synchrotron radiation as the radiation source for said
5 analysis.

20. The method of claim 1, further comprising the step of comparing the generated form to a known form.

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~~21. The method of claim 1 wherein said generating step produces at least one different form of the sample.~~

22. The method of claim 1 wherein said receptacle is subjected to substantially constant motion during said generating step.

23. The method of claim 1 wherein said receptacle is rotated along its longitudinal axis during said generating step.

24. The method of claim 1 wherein said receptacle is subject to centrifuging during said generating step.

25. The method of claim 24 wherein said centrifuging is sufficient to concentrate the solid or semisolid at one end of a capillary space.

26. The method of claim 24 wherein said centrifuging is sufficient to facilitate in-situ analysis.

27. The method of claim 24 wherein said centrifuging is sufficient to provide environmental variation.

28. The method of claim 24 wherein said centrifuging is sufficient to move the sample to the bottom of said receptacle when one end of said receptacle is closed.

29. The method of claim 1 wherein said receptacle is subject to centrifugal evaporation during said generating step.

30. The method of claim 29 wherein said centrifugal evaporation is sufficient to concentrate the solid or semisolid at one end of a capillary space.

31. The method of claim 29 wherein said centrifugal evaporation is sufficient to facilitate in-situ analysis.

32. The method of claim 29 wherein said centrifugal evaporation is sufficient to provide environmental variation.

33. The method of claim 29 wherein said centrifugal evaporation is sufficient to move the

sample to the bottom of said receptacle when one end of said receptacle is closed.

34. A method of screening a sample according to its form, said screening method comprising the steps of:

5 disposing the sample on a plurality of receptacles, where at least one of the receptacles defines a capillary space, and the sample is disposed in the capillary space;

10 solidifying the sample in or on said receptacles to generate at least one form, wherein said at least one form is a solid or semisolid;

analyzing said at least one form in a manner wherein the analytical result is indicative of the generated form; and

15 classifying said at least one form.

35. The method of claim 34, further comprising the step of determining whether more than one form was generated from said sample.

36. The method of claim 34 wherein said sample comprises a compound or a mixture that has biological activity in at least one form of said compound or mixture.

37. The method of claim 34 wherein the method comprises generating at least one other form of the compound or mixture.

38. The method of claim 34 wherein the sample comprises a known polymorphic material.

39. The method of claim 34 wherein the sample comprises at least one material that is not recognized as being polymorphic.

40. The method of claim 34 wherein a plurality of samples are screened.

41. The method of claim 34 wherein a second analyzing step is performed on said generated form, said second analyzing step providing data indicative of biological activity or
5 bioavailability.

42. The method of claim 34, wherein the analyzing step comprises a method selected from the group consisting of visual analysis, microscopic analysis, thermal analysis,
5 diffraction analysis, and spectroscopic analysis.

43. The method of claim 42, wherein the diffraction analysis is x-ray diffraction analysis.

44. The method of claim 42 wherein the analyzing step comprises analyzing said form by X-ray diffraction analysis using synchrotron radiation as the radiation source for said
5 analysis.

45. The method of claim 34 wherein the placing step comprises placing the sample into at least one capillary tube.

46. The method of claim 45, wherein the analyzing step comprises analyzing said form by X-ray diffraction analysis using synchrotron radiation as the radiation source for said
5 analysis.

47. The method of claim 45, wherein the step of analyzing said form comprises Raman spectroscopic analysis.

48. The method of claim 45, wherein the step of analyzing said form comprises analyzing said form without removing it from said capillary tube.

49. The method of claim 34 wherein the step of analyzing said form comprises analyzing said form without removing it from said receptacle.

50. The method of claim 34, wherein said classifying step comprises classifying each said generated form according to its x-ray diffraction pattern.

51. The method of claim 34, further comprising subjecting a plurality of samples to the screening method, wherein at least two

different samples are subjected to different
5 conditions during the solidifying step.

52. The method of claim 34, comprising the
step of dividing the sample into a plurality of
sample portions, and subjecting said plurality of
sample portions to the screening method, wherein
5 at least two different portions are subjected to
different conditions during the solidifying step.

53. A method of screening a sample, said
screening method comprising the steps of:

disposing the sample on a plurality of
capillary tubes;

5 centrifuging the plurality of capillary
tubes;

solidifying the sample in the capillary
tubes;

analyzing said at least one form in a manner
10 wherein the analytical result is indicative of
the generated form; and

classifying said at least one form.

54. The method of claim 53, wherein said
centrifuging step is at least partially during
said solidifying step.

55. The method of claim 53, wherein said
centrifuging step is performed at a pressure
lower than ambient pressure.

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